

**Amendments to the Claims:** This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A hydrogel composition for ~~use in transdermal extraction of an analyte~~ measuring glucose flux, said hydrogel composition comprising:  
  
a hydrophilic compound ~~capable of forming which forms~~ a gel in the presence of water, an electrolyte, a phosphate buffer present at a concentration of between about 125 mM and about 500 mM, and a pH of between about pH 6.5 to about pH 8.5, wherein the glucose flux into the hydrogel is at least 0.65 nmol/cm<sup>2</sup> hr.
2. (Original) The hydrogel of claim 1, wherein the hydrophilic compound is selected from the group consisting of polyethylene oxide, polyvinyl alcohol, polyacrylic acid, and polyvinyl pyrrolidone, and co-polymers thereof.
3. (Original) The hydrogel composition of claim 1, wherein said hydrophilic compound comprises polyethylene oxide.
4. (Original) The hydrogel composition of claim 1, wherein said hydrophilic compound is a polymer, and said polymer is present at a weight percent of between about 0.5% to about 40%.
5. (Original) The hydrogel composition of claim 1, wherein said pH is between about pH 7 to about pH 8.
6. (Original) The hydrogel composition of claim 1, wherein the hydrogel further comprises a cross-linking agent.
7. (Original) The hydrogel composition of claim 6, wherein said cross-linking agent is present at a weight percent of from about 0.001% to about 2%.
8. (Original) The hydrogel composition of claim 7, wherein said cross-linking agent is N,N'-methylenebisacrylamide.

9. (Currently Amended) The hydrogel composition of claim 1, wherein said hydrogel is treated with eElectron-beam radiation to promote cross-linking within the hydrogel.
10. (Original) The hydrogel composition of claim 1, wherein said phosphate buffer comprises monobasic and dibasic phosphate.
11. (Original) The hydrogel composition of claim 10, wherein said monobasic and dibasic phosphate comprise counter ions and said counter ions are selected from the group consisting of sodium counter ions, potassium counter ions, and mixtures thereof.
12. (Original) The hydrogel composition of claim 11, wherein for said monobasic and dibasic phosphate the counter ion is potassium.
13. (Original) The hydrogel composition of claim 1, wherein said electrolyte is a chloride salt.
14. (Original) The hydrogel composition of claim 13, wherein said chloride salt is present at a weight percent of between about 0.25% to about 2%.
15. (Original) The hydrogel composition of claim 13, wherein said chloride salt is selected from the group consisting of sodium chloride, potassium chloride, and mixtures thereof.
16. (Original) The hydrogel composition of claim 15, wherein said chloride salt is potassium chloride.
17. (Original) The hydrogel composition of claim 1, wherein said hydrogel further comprises an enzyme.
18. (Original) The hydrogel composition of claim 17, wherein said analyte is glucose and said enzyme comprises glucose oxidase.
19. (Original) The hydrogel composition of claim 1, wherein the hydrogel further comprises a biocide.

20. (Original) The hydrogel composition of claim 19, wherein said biocide is selected from the group consisting of chlorinated hydrocarbons, organometallics, metallic salts, organic sulfur compounds, phenolic compounds, quaternary ammonium compounds, surfactants, membrane-disrupting agents, and combinations thereof.

21. (Original) The hydrogel composition of claim 19, wherein said biocide is undecylenic acid or a salt thereof.

22. - 32. (Canceled)